

**RECEIVED**  
**CENTRAL FAX CENTER****MAY 20 2008** Dkt. 2271/74410Hideomi SAKUMA et al., S.N. 10/534,335  
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The application has been reviewed in light of the Office Action dated February 21, 2008. Claims 1, 2 and 4-18 were pending, with claim 3 having previously been canceled, without prejudice or disclaimer. By this Amendment, claims 1, 5, 13, 14, 16 and 17 have been amended to clarify the claimed subject matter, and new claims 19 and 20 have been added. Accordingly, claims 1, 2 and 4-20 are now pending, with claims 1, 5, 13, 14, 16 and 17 being in independent form.

Claims 1, 2, 4, 9-13 and 16 were rejected under 35 U.S.C. § 103(a) as purportedly unpatentable over Kitahara et al (US 2002/0018097 A1) in view of Matsumoto (US 2002/0021312 A1). Claims 5-8, 14, 15, 17 and 18 were rejected under 35 U.S.C. § 103(a) as purportedly unpatentable over Kitahara in view of Matsumoto and further in view of Ishii et al. (US 2003/0085978 A1).

Applicant has carefully considered the Examiner's comments and the cited art, and respectfully submits that independent claims 1, 5, 13, 14, 16 and 17 are patentable over the cited art, for at least the following reasons.

The present application relates to various improvements devised by applicant to an apparatus for conveying a recording medium, including a conveyance belt and a guide unit, such as in an inkjet recording device or other image forming apparatus. In such improved device or apparatus, the guide unit includes a plurality of projecting stripes in contact with the conveyance belt, a top surface of the projecting stripes forms a guide surface, the *projecting stripes are arranged in a direction perpendicular to a rolling direction of the conveyance belt*, and the guide surface comprising the top surfaces of the projecting stripes pushes a portion of the conveyance belt corresponding to the guide surface so that the pushed portion of the conveyance

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belt approaches the recording unit, thereby obtaining good flatness of the conveyance belt and preventing oscillation (vibration) of the conveyance belt.

Use of *projecting* stripes or ribs alleviates the high level of friction between the belt and the guide unit. However, when using a rib-structure of the guide unit, some portions of the belt are not supported by the guide unit and the belt may vibrate between two adjacent ribs. The vibration may be strong at a position where the belt climbs on the guide unit on the upstream side, and in such instances (that is, the vibration is strong) there is image degradation when recording is performed on the upstream side in the direction (For example, A in Figs. 1, 10 and 11) of conveying the recording medium.

When the projecting strips or ribs of the guide unit extend to the upstream side of the recording unit along the direction of conveying the recording medium so that the recording region is away from the upstream side of the recording unit (see Fig. 1 of this application), vibration is weak in the recording region.

Each of independent claims 1, 5, 13, 14, 16 and 17 of the present application addresses these features, as well as additional features.

Kitahara, as acknowledged in the Office Action, does not disclose or suggest an apparatus comprising a plurality of projecting stripes *arranged in a direction perpendicular to a rolling direction of the conveyance belt*, and a guide surface comprising the top surfaces of the projecting stripes pushes a portion of the conveyance belt corresponding to the guide surface so that the pushed portion of the conveyance belt approaches the recording unit, wherein the recording unit covers a part of the projecting stripes of the guide unit, and the projecting stripes of the guide unit are arranged on an upstream side in a direction of conveying the recording medium relative to a position facing the recording unit.

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In Kitahara, the grooves 74a" in Fig. 20 are parallel to the direction of conveyance, and thus the transportation belt in the apparatus proposed by Kitahara does not experience a problem of vibration of the belt between two adjacent ribs.

It would not have been obvious to modify the guide unit of Kitahara to a design that requires provision to overcome a vibration problem.

Matsumoto, as understood by applicant, proposes an image recording apparatus wherein a conveying belt 31 is provided with electrodes 37 and a voltage is applied to the electrodes (or belt attracting means) 37 provided on the conveying belt 31 to generate an electric force to attract the belt. Such electric force attracts the belt in order to suppress cockling and vertical displacement of the conveyance belt towards the recording head.

The electrodes 37 in the apparatus proposed by Matsumoto are equated in the Office Action to projecting stripes.

However, in the apparatus proposed by Matsumoto, the recording unit corresponds to only one electrode 37, but does not cover a part of the projecting stripes. With such structure (as proposed in Matsumoto), even if vibration of the belt between two adjacent electrodes occurs, since recording is not performed in a region corresponding to the space between two adjacent ribs occurs, image quality degradation caused by vibration of the belt between two adjacent ribs is not an issue.

Further, in Matsumoto, since the combination of electrodes on the frame 30 equated in the Office Action to a guide unit is not arranged to push the conveyance belt, strong vibration of the belt does not occur when the belt climbs on the guide unit, and degradation of image quality on the upstream side does not occur.

Therefore, the apparatus proposed by Matsumoto does not make the claimed subject

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matter of the present application obvious.

Ishii, as understood by applicant, proposes a material transportation apparatus for an ink jet printer wherein a suction force generating part applies suction to a recording medium transportation surface 122 at a recording area 122a.

However, in the apparatus of Ishii, like those of Kitahara and Matsumoto, vibration of the conveyance belt at the recording medium is not a problem (since suction is applied thereto).

Applicant submits that the cited art, even when considered along with common sense and common knowledge to one skilled in the art, would not have render obvious an apparatus comprising a plurality of projecting stripes arranged in a direction perpendicular to a rolling direction of the conveyance belt, and the guide surface comprising the top surfaces of the projecting stripes pushes a portion of the conveyance belt corresponding to the guide surface so that the pushed portion of the conveyance belt approaches the recording unit, wherein the recording unit covers a part of the projecting stripes of the guide unit, and the projecting stripes of the guide unit are arranged on an upstream side in a direction of conveying the recording medium relative to a position facing the recording unit (independent claims 1, 5, 13, 14, 16 and 17 of the present application).

Accordingly, for at least the above-stated reasons, Applicant respectfully submits that independent claims 1, 5, 13, 14, 16 and 17, and the claims depending therefrom, are patentable over the cited art.

In view of the remarks hereinabove, Applicant submits that the application is now in condition for allowance, and earnestly solicits the allowance of the application.

If a petition for an extension of time is required to make this response timely, this paper should be considered to be such a petition. The Patent Office is hereby authorized to charge any

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fees that are required in connection with this amendment and to credit any overpayment to our  
Deposit Account No. 03-3125.

If a telephone interview could advance the prosecution of this application, the Examiner  
is respectfully requested to call the undersigned attorney.

Respectfully submitted,



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